

*ifw*  
Patent

32692

Customer Number



Case No.: 58807US002

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

First Named Inventor: ROSENFLANZ, ANATOLY Z.  
Application No.: 10/666212 Group Art Unit: 1755  
Filed: September 18, 2003 Examiner: Elizabeth Bolden  
Title: CERAMICS COMPRISING AL<sub>2</sub>O<sub>3</sub>, REO, ZRO<sub>2</sub> AND/OR HFO<sub>2</sub>, AND NB<sub>2</sub>O<sub>5</sub>  
AND/OR TA<sub>2</sub>O<sub>5</sub> AND METHODS OF MAKING THE SAME

**INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**CERTIFICATE OF MAILING**  
I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on:

*August 10, 2004* *Lisa Hengen*  
Date Signed by: Lisa Hengen

Dear Sir:

Pursuant to 37 CFR §§ 1.56, 1.97, and 1.98, enclosed is a completed Form PTO-1449, citing references submitted for consideration by the Examiner. Copies of any cited foreign patents, non-patent literature, and unpublished US application documents are enclosed. Pursuant to the waiver in the Pre-OG Notice, dated July 11, 2003, copies of US patents and published US patent applications are no longer required and are not enclosed. It is respectfully requested that the Examiner initial and return the enclosed Form PTO-1449 to indicate that each reference has been considered.

It is believed that no fee is due; however, in the event a fee is required, please charge the fee to Deposit Account No. 13-3723.

Respectfully submitted,

August 9, 2004  
Date

By:   
Gregory D. Allen, Reg. No.: 35,048  
Telephone No.: (651) 736-0641

Substitute for form 1449A/PTO (modified)

Application Number 10/666212

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Page 1 of 2

|                      |                     |
|----------------------|---------------------|
| Filing Date          | September 18, 2003  |
| First Named Inventor | Rosenflanz, Anatoly |
| Art Unit             | 1755                |
| Examiner Name        | Elizabeth Bolden    |
| Attorney Case Number | 58807US002          |

## U.S. Patent Documents

| Exam.<br>Init.* | Cite<br>No. | Document Number                  | Publication Date or<br>Issue Date<br>MM-DD-YYYY | Name of Patentee<br>or Applicant of Cited Document | Pages, Columns, Lines,<br>Where<br>Relevant Passages or Relevant<br>Figures Appear |
|-----------------|-------------|----------------------------------|---|--|--|
|                 |             | Doc. Number-(Kind Code if Known) |   |  |  |
|                 | A1          | US- 3,625,717                    | 12/07/1971                                      | Grubba et al.                                      |  |
|                 | A2          | US- 4,316,964                    | 02/23/1982                                      | Lange  |  |
|                 | A3          | US- 4,757,036                    | 07/12/1988                                      | Kaar et al.  |  |
|                 | A4          | US- 5,248,318 A                  | 09/28/1993                                      | Tamamaki et al.                                    |  |
|                 | A5          | US- 5,413,974 A                  | 05/09/1995                                      | Yokoyama et al.                                    |  |
|                 | A6          | US- 5,449,389                    | 09/12/1995                                      | Yoshizumi et al.                                   |  |
|                 | A7          | US- 5,516,348 A                  | 05/14/1996                                      | Conwell et al.                                     |  |
|                 | A8          | US- 5,547,479 A                  | 08/20/1996                                      | Conwell et al.                                     |  |
|                 | A9          | US- 5,645,619                    | 07/08/1997                                      | Erickson et al.                                    |  |
|                 | A10         | US- 5,611,829 A                  | 03/18/1997                                      | Monroe et al.                                      |  |
|                 | A11         | US- 5,721,188                    | 02/24/1998                                      | Sung et al.  |  |
|                 | A12         | US- 5,856,254                    | 01/05/1999                                      | Feige et al.                                       |  |
|                 | A13         | US- 6,053,956 A                  | 04/25/2000                                      | Wood   |  |
|                 | A14         | US- 6,277,161 B1                 | 08/21/2001                                      | Castro et al.                                      |  |
|                 | A15         | US- 6,287,353                    | 09/11/2001                                      | Celikkaya  |  |
|                 | A16         | US- 6,749,653 B2                 | 06/15/2004                                      | Castro et al.                                      |  |

## Foreign Patent Documents

| Exam.<br>Init.* | Cite<br>No. | Foreign Patent Document |                            | Publication Date<br>MM-DD-YYYY | Name of Patentee or<br>Applicant of Cited Document | Pages, Columns, Lines,<br>Where Relevant Passages<br>or Relevant Figures Appear | Translation<br>(Check if yes) |
|-----------------|-------------|-------------------------|----------------------------|--------------------------------|--|---|-------------------------------|
|                 |             | Ctry. Code              | Number-KindCode (If known) |                                |  |   |                               |
|                 | B1          | DE                      | 141 420                    | 04/30/1980                     |  |   | X                             |
|                 | B2          | EP                      | 0 227 374                  | 07/01/1987                     |  |   |                               |
|                 | B3          | EP                      | 0 236 507                  | 09/16/1987                     |  |   |                               |
|                 | B4          | EP                      | 0 666 238 B1               | 08/09/1995                     |  |   |                               |
|                 | B5          | EP                      | 0 666 239 B1               | 08/09/1995                     |  |   |                               |
|                 | B6          | FR                      | 2 118 026                  | 07/28/1972                     |  |   | X                             |
|                 | B7          | GB                      | 793,503                    | 04/16/1958                     |  |   |                               |
|                 | B8          | GB                      | 1,005,338                  | 09/22/1965                     |  |   |                               |
|                 | B9          | GB                      | 2 116 992                  | 10/05/1983                     |  |   |                               |

\*Examiner:

Date Considered:

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

|  |  |                      |                     |
|--|--|----------------------|---------------------|
| Substitute for form 1449A/PTO (modified)             |  | Application Number   | 10/666212           |
| <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> |  | Filing Date          | September 18, 2003  |
| (Use as many sheets as necessary)                    |  | First Named Inventor | Rosenflanz, Anatoly |
| Page 2 of 2  |  | Art Unit             | 1755                |
|  |  | Examiner Name        | Elizabeth Bolden    |
|  |  | Attorney Case Number | 58807US002          |

| Foreign Patent Documents |             |                         |                            |                                |  |   |                               |
|--------------------------|-------------|-------------------------|----------------------------|--------------------------------|--|---|-------------------------------|
| Exam.<br>Init.*          | Cite<br>No. | Foreign Patent Document |                            | Publication Date<br>MM-DD-YYYY | Name of Patentee or<br>Applicant of Cited Document | Pages, Columns, Lines,<br>Where Relevant Passages<br>or Relevant Figures Appear | Translation<br>(Check if yes) |
|                          |             | Ctry. Code              | Number-KindCode (If known) |                                |  |   |                               |
|                          | B10         | GB                      | 2 377 438 A                | 01/15/2003                     |  |   |                               |
|                          | B11         | JP                      | 61099665                   | 05/17/1986                     |  |   | Abstract                      |
|                          | B12         | JP                      | 05-085821                  | 04/06/1993                     |  |   | X                             |
|                          | B13         | JP                      | 06-171974                  | 06/21/1994                     |  |   | X                             |
|                          | B14         | JP                      | 62-003041                  | 01/09/1987                     |  |   | X                             |
|                          | B15         | JP                      | 2003-94414                 | 04/03/2003                     |  |   | X                             |

| OTHER DOCUMENTS |             |  |  |  |  |                               |
|-----------------|-------------|--|--|--|--|-------------------------------|
| Exam.<br>Init.* | Cite<br>No. | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published |  |  |  | Translation<br>(Check if yes) |
|                 | C1          | Aasland and McMillan, Nature 369, 633 (1994)   |  |  |  |                               |
|                 | C2          | Aguilar et al, "Melt Extraction Processing of Structural Y <sub>2</sub> O <sub>3</sub> -Al <sub>2</sub> O <sub>3</sub> Fibers", J. Eur. Ceram. Soc. 20 1091-1098 (2000)  |  |  |  |                               |
|                 | C3          | Gandhi, A.S. and Jarayam, V., "Pressure Consolidation of Amorphous ZrO <sub>2</sub> -Al <sub>2</sub> O <sub>3</sub> by Plastic Deformation of Powder Particles", Acta Materialia, 50 (2002), 2137-2149   |  |  |  |                               |
|                 | C4          | Gonzalez, Eduardo J., et al., "High Pressure Compaction and Sintering of Nano-Size γ-Al <sub>2</sub> O <sub>3</sub> Powder", Materials and Manufacturing Processes Vol. 11, No. 6, 951-967, 1996   |  |  |  |                               |
|                 | C5          | Jantzen, C.M., Krebski, R.P., & Herman, H., "Ultra-Rapid Quenching of Laser-Method Binary and Unary Oxides", Mat. Res. Bull. 15, 1313-1326 (1980)  |  |  |  |                               |
|                 | C6          | Khor K.A., "Novel ZrO <sub>2</sub> -Mullite Composites Produced By Plasma Spraying", Proceedings of the 15 <sup>th</sup> International Thermal Spray Conference, 25-29 May 1998, Nice, France  |  |  |  |                               |
|                 | C7          | Ray, C.S. and Day, D.E., "Determining the Nucleation Rate Curve for Lithium Disilicate Glass by Differential Thermal Analysis", J. Am. Ceram. Soc. 73(2) 439-442 (1990)  |  |  |  |                               |
|                 | C8          | Schmucker, M, et al., "Constitution of Mullite Glasses Produced by Ultra-Rapid Quenching of Plasma-Sprayed Melts", Journal of the European Ceramic Society 15 (1995) 1201-1205   |  |  |  |                               |
|                 | C9          | Sarjeant, P.T., & Roy, R., in <i>Reactivity of Solids</i> (ed. J. W. Mitchell, R.C., DeVries, R.W., Roberts and P. Cannon) 725-33 (John Wiley & Sons, Inc., New York 1969)   |  |  |  |                               |
|                 | C10         | Takamori, T., & Roy, R., "Rapid Crystallization of SiO <sub>2</sub> -Al <sub>2</sub> O <sub>3</sub> Glasses", Journal of American Society, Vol. 56, No. 12, December 1973.   |  |  |  |                               |
|                 | C11         | Weber et al., "Synthesis and Optical Properties of Rare-Earth-Aluminum Oxide Glasses", J. Am. Ceram. Soc. 85(5) 1309-1311 (2002)   |  |  |  |                               |
|                 | C12         | Wilding, M.C., McMillan, P.F., "Polyamorphic Transitions in Yttria-Alumina Liquids", J. Non-Cryst. Solids. 293-295, 357-365 (2001)   |  |  |  |                               |

|  |                  |
|--|------------------|
| *Examiner:   | Date Considered: |
| EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. |                  |